IN THE CLAIMS:

1. (Previously Presented) A method for dynamically selecting a communication channel between an access point (AP) and a plurality of stations (STAs) located within the coverage area of a basic service set (BSS) in a wireless local area network (WLAN), the method comprising the steps of:

(a) determining whether a new channel to be used by all of the plural STAs is needed;

(b) measuring a channel quality of a plurality of frequency channels by an STA of the plural STAs;

(c) reporting from said STA to said AP of a list of candidate channels including a received signal strength indication (RSSI) and Clear Channel Assessment (CCA) busy periods of channels measured by said STA; and,

(d) selecting one of said candidate channels based on said channel quality report for use in communication between said AP and the plural STAs.

2. (Original) The method of claim 1, wherein said channel signal quality further includes an interference signal level caused by another communication device, said interference signal level is based on a periodic presence of on/off busy CCA signals.

3. (Previously Presented) The method of claim 1, wherein said step (d) of selecting one of said candidate channels is based on the least interference to said channel quality or meeting other regulatory requirements for use in communication between said AP and said plural STAs.

4. (Original) The method of claim 1, wherein said step (d) of selecting one of said

candidate channels is based on whether the channel causes the least interference to another communication device or meeting other regulatory requirements.

5. (Previously Presented) The method of claim 1, further comprising the step of transmitting the selected channel information to said plural STAs by said AP.

6. (Previously Presented) The method of claim 1, further comprising the step of switching said plural STAs to said new channel.

7. (Previously Presented) A method for dynamically selecting a communication channel between an access point (AP) and a plurality of stations (STAs) located within the coverage area of a basic service set (BSS) in a wireless local area network (WLAN), the method comprising the steps of:

(a) determining whether a new channel to be used by all of the plural wireless STAs is needed;

(b) requesting, by said AP, a channel quality measure to at least one of the plural STAs;

(c) transmitting a channel quality report of a plurality of frequency channels from said at least one of the plural STA to said AP, said channel quality report including a received signal strength indication (RSSI) and Clear Channel Assessment (CCA) busy periods of channels measured by said plural STAs;

(d) determining whether a signal from an adjacent BSS is received by an STA of said plural STAs; and,

(e) if said adjacent BSS signal or an interfering signal of unknown type is detected, selecting a new channel based on least interference to said channel quality or meeting other regulatory requirement for use in communication between said AP and said

plural STAs according to the value of said RSSI.

8. (Previously Presented) The method of claim 7, further comprising the step of communicating information about said new channel from said AP to said plural STAs.

9. (Previously Presented) A method for dynamically selecting a communication channel between an access point (AP) and a plurality of stations (STAs) located within the coverage area of a basic service set (BSS) in a wireless local area network (WLAN), the method comprising the steps of:

(a) determining whether a new channel to be used by said plurality of wireless STAs is needed;

(b) requesting, by said AP, a channel quality measure to at least one of said plurality of STAs;

(c) transmitting a channel quality report of a plurality of frequency channels from said at least STA to said AP, said channel quality report including a received signal strength indication (RSSI) and Clear Channel Assessment (CCA) busy periods of all channels measured by said plurality of STAs;

(d) determining whether a signal from an adjacent BSS is received by said plurality of STAs;

(e) if said adjacent BSS signal or interfering signals of unknown type is detected, selecting a new channel based on the least interference to said channel quality or meeting other regulatory requirement for use in communication between said AP and said plurality of STAs according to the value of said RSSI; and

switching said plurality of STAs to said new channel.

10. (Original) The method of claim 7, wherein said new channel is selected if said

RSSI does not exceed a predetermined threshold.

11. (Previously Presented) The method of claim 7, further comprising the steps of:

determining whether an interference signal level caused by another communication device is detected based on a periodic presence of on/off busy CCA signals; and, if so, selecting said new channel based on whether the channel, among candidate channels, causes least interference to said communication device.

12. (Previously Presented) The method of claim 7, wherein it is determined that said new channel is needed in step (a) by determining, for the following conditions, if any occurs: (1) said BSS is formed by said AP; (2) said AP or said STA experiences a bad channel condition; (3) said BSS overlaps with an adjacent BSS; (4) no association of said STA by said AP occurs longer than a predetermined time period; and, (5) detection of another licensed operator within said BSS.

13. (Previously Presented) A method for dynamically selecting a communication channel between an access point (AP) and a plurality of stations (STAs) located within a coverage area of a basic service set (BSS) in a wireless local area network (WLAN), the method comprising the steps of:

(a) determining whether a new channel to be used by all of the plural STAs is needed;

(b) determining whether a signal from an adjacent BSS is received by said plural STAs;

(c) measuring a received signal strength indication (RSSI) and Clear Channel Assessment (CCA) busy periods of all said channels scanned by said plural STAs to said AP;

(d) measuring an interference level caused by another communication system based on a periodic presence of on/off busy CCA signals; and

(e) selecting said new channel representing the least interference signal level based on said measured RSSI, CCA, and periodic presence of CCA busy signals.

14. (Previously Presented) The method of claim 13, further comprising the step of communicating information about said new channel from said AP to said plural STAs.

15. (Previously Presented) The method of claim 13, further comprising the step of switching said plural STAs to said new channel.

16. (Original) The method of claim 13, wherein determining that said new channel is needed in step (a) if one of the following condition occurs: (1) said BSS is formed by said AP; (2) said AP or said STA experiences a bad channel condition; (3) said BSS overlaps with an adjacent BSS; (4) no association of said STA by said AP occurs longer than a predetermined time period; and, (5) detection of another licensed operator within said BSS.

17. (Previously Presented) A system for dynamically selecting a communication channel between an access point (AP) and a plurality of stations (STAs) located within the coverage area of a basic service set (BSS) in a wireless local area network (WLAN), the system comprising:

means for determining whether a new channel to be used by all the plural STAs is needed;

means for requesting, by said AP, a channel signal quality measure to at least one of said plural STAs;

means for transmitting a channel quality report of a plurality of frequency channels between said AP and at least one of said plurality of STAs, said channel quality report including a received signal strength indication (RSSI) and Clear Channel Assessment (CCA) busy periods of all channels measured by said plural STAs;

means for determining whether a signal from an adjacent BSS is received by said plural STAS; and,

means for selecting a new channel based on the least interference to said channel quality for use in communication between said AP and said plural STAs if said adjacent BSS signal is detected.

18. (Previously Presented) The system of claim 17, further comprising a means for communicating information about said new channel from said AP to said plural STAs.

19. (Previously Presented) The system of claim 17, further comprising a means for switching said plural STAs to said new channel.

20. (Original) The system of claim 17, wherein said new channel is selected if said RSSI exceeds a predetermined threshold.

21. (Original) The system of claim 17, further comprising:

means for determining whether an interference signal level caused by another communication device is detected based on a periodic absence of any 802.11 frame reception for a predetermined time period; and,

means for selecting said new channel based on whether the channel causes the least interference to another communication device.

22. (Previously Presented) A system for dynamically selecting a communication channel between an access point (AP) and a plurality of stations (STAs) located within the coverage area of a basic service set (BSS) in a wireless local area network (WLAN), the system comprising:

a memory for storing a computer-readable code; and,

a processor operatively coupled to said memory, said processor configured to:

(1) determine whether a new channel to be used by all of the plural STAs is needed;

(2) determine whether a signal from an adjacent BSS is received by said plural STAs;

(3) measure a received signal strength indication (RSSI) and Clear Channel Assessment (CCA) busy periods of all said channels scanned by said plurality of STAs to said AP;

(4)measure an interference level caused by another communication system based on a periodic absence of any 802.11 frame reception for a predetermined time period; and,

(5) select said new channel representing the least interference signal level based on said measured RSSI, CCA, and periodic presence of CCA busy signals.

23. (Previously Presented) The system of claim 22, wherein said processor is further configured to communicate information about said new channel from said AP to said plural STAs.

24. (Previously Presented) The system of claim 22, wherein said processor is further configured to switch said plural STAs to said new channel.

25. (Previously Presented) The method of claim 1, further comprising the step of (e) notifying said plural STAs of the selected channel by beacon transmission to switch all of said plural STAs to said selected channel.